Maintenance

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Maintenance

Although the *C-more* touch panels require very little maintenance, setting up a routine maintenance schedule will insure the longevity of the product in your application.

The following are some suggestions of items to include in a preventive maintenance list or schedule. Most of these items should be scheduled quarterly or bi-annually.

Project Backup

- During a routine preventive maintenance schedule is a good time to make sure that there is an up-to-date backup of the application project. Although the *C-more* touch panel with its programming software has the ability to upload the complete project from a panel through the programming software, insurance is warranted just in case the worse case scenario happens and the entire touch panel is destroyed.

Check Operating Environment

- Make sure the touch panel is operating in the proper temperature range: (0 to 50 °C (32 to 122 °F)).
- Make sure the touch panel is operating within the specified humidity range: (10–85% RH, non-condensing).
- Make sure the operating environment is free of corrosive gasses.

Check Operating Voltage

- Check the input voltage that is powering the touch panel to make sure it is within the appropriate range.

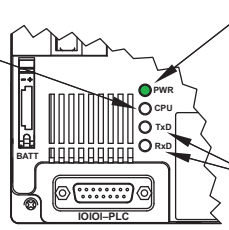
DC: If the panel is being powered with a DC power source, then the acceptable range is 20.4 to 28.8 VDC. (24 VDC, -15%, +20%, minimum of 1.5 A)

AC: If the panel is being powered from an AC/DC Power Adapter, EA-AC, then the acceptable input voltage range to the adapter is 100-240 VAC, 50/60 Hertz.

Check Status Indicators

- During a routine maintenance check is a good time to take a quick look at the status indicators on the rear of the touch panel. The Power LED (PWR) indicator should be on and there should be activity on the TxD and RxD LED indicators when connected serially to a PLC or control device. Check the status of the CPU LED and compare it to the chart shown in the illustration below. Any indication of the CPU LED other than a solid green shows there is a possible problem, and the condition needs to be corrected.

CPU Status LED (Green, Orange & Red)	
Off	Power Off
Green	Normal – CPU Run State
Red	Memory Error
Blinking Red	Operating System not found
Blinking Orange	LCD Backlight Failure
Blinking Green	Power Loss Detection



Power LED (Green)	
On	Power On
Off	Power Off

Serial TxD/RxD LED (Green)	
On	Comm. is active
Off	No communication

Rear View

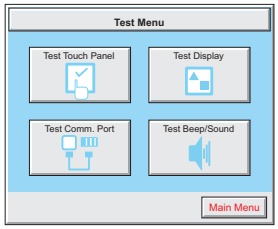
Check Physical Conditions

- Make sure that harmful chemicals are not being used around the panel. Look for any deterioration of the touch panel's bezel and front display area. See **Chapter 2: Specifications** for a chemical compatibility list.
- Check the mounting gasket to make sure it is sealing properly and has not deteriorated. Replace the mounting gasket if there are any signs of deterioration, or if there is any evidence that moisture/liquids have penetrated to the inside of the enclosure where the panel is mounted. Information on a replacement gaskets can be found in **Chapter 9: Replacement Parts**.

- Check to make sure that none of the cooling vents around the inside section of the touch panel are clogged with dust or debris. Also make sure that there is clearance around the touch panel as shown in **Chapter 4: Installation and Wiring**.

Run Tests under System Setup Screens

- Use the touch panel's System Setup Screens to test the touch screen, display, communication ports, beeper and audio output (only with external amplifier and speaker(s) connected). See **Chapter 5: System Setup Screens** for additional details for the **Test Menu**.



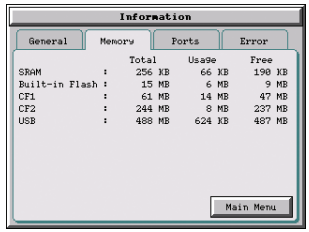
Test Touch Panel - allows the user to check the analog touch function of the screen by drawing free hand lines and shapes across the entire touch area. The display will retain the lines where the screen has been touched until the **Cancel** button is pressed.

Test Display - used to test the display and color rendition. A test pattern will first show both the primary colors (if applicable) and a gray scale. If the touch screen is not pressed within a few seconds, the display will go into alternating color sweeps across the screen until the panel is pressed again. If the screen is pressed when the test pattern first appears, it will stay in this mode until the **Cancel** button is pressed.

Test Comm. Port - used to test the functionality of both the 15-pin PLC communication serial port and the Ethernet port (non -R models only). A loop-back connector can be fabricated and used on the 15-pin serial port to test both the RS-232 and RS-422/485 communications for the TxD and RxD signals and also the RTS and CTS signals if applicable. The **Test Comm. Port** setup screen and **Chapter 5** show pin-outs for the both the RS-232 and RS-422/485 loop-back connectors. The Ethernet connection can also be tested for communications if it is at least connected to an Ethernet hub or switch. If the touch panel is connected to a PLC, then an inquiry test can also be done to test the communications between the panel and the PLC. Press the **Cancel** button when finished to return to the **Test Menu** screen.

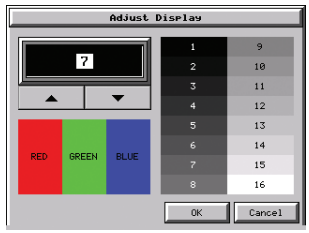
Test Beeper/Sound - used to test the touch panel's internal beeper and also test the audio line output port with an external amplifier and speaker(s) connected. Testing the audio output is done by playing an included internal WAV file. Press the **Cancel** button when finished to return to the **Test Menu** screen.

Check Memory Usage via System Setup Screens



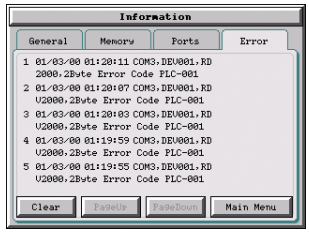
- A good time to check and record the touch panel's memory usage for future reference is during a routine maintenance schedule. The various memory devices being used by the panel are listed under the tab. This includes the SRAM, Built-in Flash and any external memory device such as a USB pen drive or CompactFlash memory. If no external memory device is inserted, it will not show up on the list. The amount of total, used and free memory is shown. The memory usage can be viewed by use of the panel's **System Setup Screen's Main Menu**, and then selecting the **Information** button. Look under the **Memory** tab. See **Chapter 5: System Setup Screens** for additional details on using the **Memory** tab.

Check/Adjust Display Brightness or Contrast



- Is is good practice to occasionally check the display brightness or contrast and adjust as required. This is done by using the **Setting Menu** in the **System Setup Screens**. Keep in mind that only the **contrast** can be adjusted on the STN type display models and only the **brightness** can be adjusted on the TFT type display models. See **Chapter 5: System Setup Screens** for additional details.

Check Error Log via System Setup Screens



- Another good practice is to review the touch panel's **Error Log**. The log can be viewed by use of the panel's **System Setup Screen's Main Menu**, and then selecting the **Information** button. Look under the **Error** tab. See **Chapter 5: System Setup Screens** for additional details on using the **Error** tab, **Appendix A: PLC Protocol Error Codes** for a list of the error codes as they relate to the specific PLC that is being used with a description of the error, and **Appendix B:Touch Panel Runtime Errors** for a list of errors that may occur when the panel is in operation.

Adjust Touch Panel via System Setup Screens

- It is recommended that a regularly scheduled maintenance program include **adjusting** the touch panel. The adjustment can be looked at as "calibrating" the touch area of the panel. The procedure should also be done anytime that it seems the touch area being pressed for an object is out of position by a small amount. The procedure is done by using the **Setting Menu** in the **System Setup Screens** and then selecting the **Adjust Touch Panel** button. See **Chapter 5: System Setup Screens** for additional details.

Replace Battery Periodically

- The lithium battery in the touch panel is used to maintain the system SRAM retentive memory and the CPU date/time registers when the unit is without external power. Before replacing the battery, back-up the data in your SRAM retentive memory as a precaution. **Input power needs to be maintained to the panel during battery replacement or the SRAM retentive memory and date/time registers will be cleared.** Typical battery life is five years, which includes panel runtime and normal shutdown periods. The battery's status can be checked under the **General** tab of the **Information** screen of the **System Setup Screens**, see **Chapter 5**. However, consider installing a fresh battery if your battery has not been replaced recently and the unit will be without power for a period of more than ten days. A replacement battery can be purchased from ***AutomationDirect*** as part number D2-BAT-1 (#CR2354).

D2-BAT-1

CAUTION - The battery used in this device may present a risk of fire or chemical burn if mistreated. Do not recharge, disassemble, heat above 100 °C (212 °F) or incinerate. Replace battery with AutomationDirect part number D2-BAT-1 or CR2354 only. Use of another battery may present a risk of fire or explosion. Dispose of used battery properly. Keep away from children.

Perchlorate Material, special disposal handling may apply

Cleaning the Display Screen

- The display screen should be cleaned periodically by wiping it with a lint free damp cloth using a mild soap solution. Dry the surface when finished with a lint free cloth. Do not clean with ammonia based products. The ABS material the bezel is made from is reactive with ammonia.
- The longevity of the display can be increased by the use of a non-glare screen protector, p/n **EA-XX-COV2**, where XX = touch panel screen size, 6, 8, 10, 12, or 15. See **Chapter 3: Accessories** for additional information on the screen protectors.

EA-6-COV2

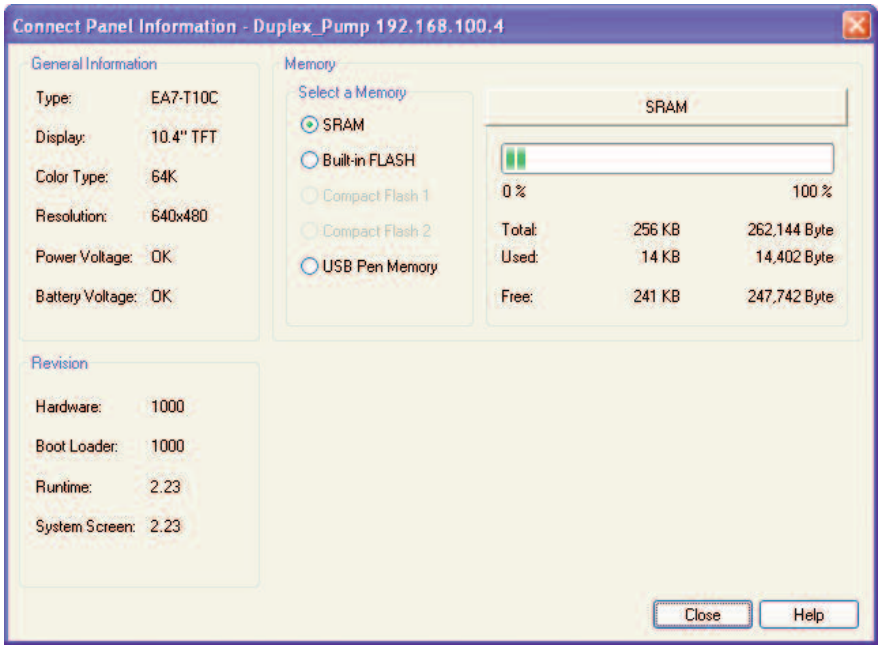
- To prevent damage to the display screen, avoid touching the screen with sharp objects, striking the screen with a hard object, the use of abrasives near the screen, or using excessive force when pressing the touch screen. In the event that the touch screen membrane becomes damaged or scratched, the bezel, which includes the clear membrane window, can be replaced on the 8", 10", 12" and 15" touch panels. See **Chapter 9: Replacement Parts** for additional information on the replacement bezels. The bezel with clear membrane window can be replaced on the 6" touch panels by calling our technical support department at 770-844-4200 to make arrangements for returning the unit for repair.

Check Project Functionality

- During a routine maintenance schedule is a good time to check the functionality of your application, making sure that various areas on different screens do what they were designed to do. An outline or specification for the application is a useful tool for testing the various aspects of your application. As a starting point, you may want to run through all the screens to make sure they are accessible.
- If there are any trouble-shooting procedures built into the touch panel application, now is a good time to also check these aids.

Checks from *C-more* Programming Software

- If you have a PC available with the *C-more* programming software, EA-PGMSW, installed, and the PC is connected to the touch panel, there are checks you can make to the status of the touch panel by using the **Panel Information...** feature located under the **Main Menu** heading **Panel**. This includes the following:
  - Connect Panel Information
  - Memory availability and usage
  - Power Voltage
  - Battery Voltage:
  - Revisions



- Other functions that can be accessed from the programming software directly to the touch panel include: **Display Screen**, **Reboot**, **Adjust Clock**, **Memory Clear**, and **Update Firmware**. Additional information for these functions can be found in the *C-more* programming software on-line help.

Notes: